DOCUMENT RESUME

ED 050 121 TE 002 418

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TITLE Annual Evaluation Report of the Hawaii English Project for 1968-1969.
INSTITUTION Hawaii Univ., Honolulu, Hawaii Curriculum Center.
PUB DATE Oct 69
NOTE 48p.

EDRS PRICE EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS *Curriculum Evaluation, *English Curriculum, *Individualized Instruction, *Language Skills, *Program Evaluation
IDENTIFIERS Elementary and Secondary Education Act, Title III

ABSTRACT

The English Project of the University of Hawaii Curriculum Center, begun in 1966, has as its objective the production of a tested curriculum in English for all grades, together with a plan for installing it in the Hawaiian schools and disseminating it to other schools. During the reporting period covered, evaluation activities were carried out according to a specific evaluation model. Data collected during the evaluation are analyzed, and the results of the analysis are given. It is recommended that: (1) objectives in the area of self-directed learner skills be clarified; (2) materials and instructional procedures in the Literature and Language Systems be planned to accommodate the self-directed learners currently in the Language Skills subprogram; (3) each unit in all three subprograms be reexamined as to soundness and relevance; (4) the student behavior expected upon termination of the programs be more clearly defined; (5) new experiments in peer tutoring be conducted; and (6) means for providing more systematic and timely information feedback be developed. (DF)

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HAWAII ENGLISH PROJECT

ANNUAL EVALUATION REPORT 1968 - 1969

HAWAII CURRICULUM CENTER

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ANNUAL EVALUATION REPORT OF THE HAWAII ENGLISH PROJECT

FOR 1968-1969

by

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Hawaii Curriculum Center Evaluation Staff

TE 002 418

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October, 1969

ANNUAL EVALUATION REPORT OF THE HAWAII CURRICULUM CENTER
ENGLISH PROJECT FOR 1968-69

Foreword

This annual report is intended to provide project staff, participating teachers and administrators, funding agents, and interested educators and laymen with a descriptive overview and preliminary evaluation of the English Project to date. There are seven sections in the report: 1) Summary, Conclusions, and Recommendations, 2) Overview of the English Project, 3) Language Skills Subprogram, 4) Literature Subprogram, 5) Language Systems Subprogram, 6) Evaluation of the Evaluation, and 7) Appendices (available upon request).

Preparation of this report required the assistance of many people. Special thanks are due to Anne Nicol and Carol Smith for their evaluation assistance during the year, Edith Kleinjans and Edith Louis for their editorial work, Joy McLarty and David Chang for data analysis, and Pat Zakahi and Vivian Flake for typing this report.

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I. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A. SUMMARY

This annual report contains data collected and analyzed by the English Project evaluation staff of the Hawaii Curriculum Center from September 1968 through August 1969.

Curriculum planners and project administrators met with the evaluation specialist in determining those areas in most critical need of evaluation. An evaluation design was then prepared, reviewed, and used as the basis for the evaluation activities throughout the year.

Attention was given to describing the background situation in which the project operated, and to evaluating the program's activities and preliminary outcomes.

B. CONCLUSIONS

Shown below is a set of tentative conclusions regarding the Hawaii English Project. Conclusion one is related to the entire English Project and the other nine are confined to the Language Skills Subprogram.

1. Visiting scholars from the mainland and other countries who have observed the English Project have been favorably impressed. Among the things frequently praised were the design statements for the subprograms (Language Skills, Literature, and Language Systems), which they judged to be well formulated and soundly based in scholarship. The variety and innovativeness of many of the materials and instructional activities produced in all three subprograms also drew much favorable comment.

2. Students, teachers, principals, parents, and visitors expressed generally enthusiastic attitudes toward the Language Skills subprogram. Students interviewed expressed a more frequent preference for language arts activities than for any other subjects, and in almost all cases they felt they were succeeding in the programs. Most of the teachers and principals, while aware of the extra work required to individualize instruction, felt they were accomplishing more with the program than through traditional methods. The majority of parents interviewed thought the program was helping their children to learn. Children advanced noticeably in language skills, responsibility for their own learning, and interest in school. Visitors were generally impressed with the programs, particularly the individualization of instruction and the adequacy and variety of the materials. Two problems noted by visitors were the dislike of a few students for peer teaching and the amount of record-keeping done by some teachers.

3. Children in the skills program have made substantial academic progress during the year. Sixty per cent of all participating kindergarten children this year had a reading knowledge of over 60 words; two kindergarten

children read over 35 books. Forty-six per cent of all participating first-grade children read over ten books; 11 percent read more than 35 books. In writing, 50 per cent of all kindergarteners and 83 per cent of all first graders could copy four word sentences accurately from a model in cursive writing.

4. A tremendous range was found in the kinds and numbers of skills programs needed, in numbers of days required to complete the programs, and in achievement by the end of the year. Materials were available for children at all levels, from a letter discrimination program successfully completed by all kindergarten children to a comprehensive reading kit designed to take children to a seventh grade level of reading.

5. Children in the program have also made substantial progress during the year in self-directed learning skills. The greatest improvement occurred in their ability to plan at least one language arts activity each day. Improvement was also noticeable in their ability to change activities without teacher direction, to keep trace of their place in programs, and to mark their own progress in their record folders. They showed least gain in accepting tutoring from other children.

6. Low correlations of students' sex, IQ, and socioeconomic status with achievement in reading, writing, typing, and listening/speaking have been found for the children in the Language Skills subprogram. This finding suggests that success in these programs is independent of certain conditions beyond the child's control. For example, children from lower socioeconomic levels have about the same chance to succeed in the program as children from upper socioeconomic levels.

7. The correlations of student progress in reading, writing, typewriting, and listening/speaking are relatively low, with the exception of a moderate correlation between reading and listening/speaking. This means that it is not necessary that a child perform well in one area to be able to perform well in another; he has multiple opportunities to succeed. This variety of possibilities is one measure of an individualized instructional program.

8. Students responding to a media preference inventory indicated that the typewriter was favored most and flocked letter cards least. Nevertheless, each of the types of media in use was liked by at least half of the children.

9. The experiment of combining kindergarten and first-grade students in the same classroom was highly successful. Not only did kindergarteners double their achievement in certain areas of reading over last year but the first graders too made substantial progress.

10. Peer teaching at the kindergarten and first-grade level proved to be an effective method of learning. Post-test gain scores showed improvement not only for the learner but also for the tutors, supporting the notion that one learns by teaching others. More experiments are needed to determine what factors contribute to successful and unsuccessful peer teaching.

C. RECOMMENDATIONS

The following recommendations are based upon this year's evaluation.

1. Planners need to develop a clearer set of objectives in the area of self-directed learner skills of students.

2. Planners in the Literature and Language Systems subprograms should plan their materials and instructional procedures to accommodate the self-directed learners being prepared in the Language Skills subprogram. There should be an articulation among the subprograms that enhances a child's growth in independence throughout his years in school. Likewise it is recommended that leaders within the Department of Education consider the articulation of this individualized instructional program with the total school curriculum.

3. Planners in all three subprograms should re-examine the value of each unit being developed to judge not only its scholarly soundness but also its relevance to the children of Hawaii and to their particular grade level. Evaluators also need to develop methodologies useful in answering these basic questions.

4. A need exists for the section chiefs in all three subprograms of the English Project to determine more clearly what outcomes in students' behaviors are expected upon termination of their programs. For example, a clearer definition and elaboration of "sixth-grade level of proficiency in language skills" would be most useful in giving focus and direction to all sets of materials.

5. New experiments in peer tutoring are needed to determine what specific combinations of variables contribute to its success or failure.

6. Attention should be given to the development of a more systematic and timely feedback of information from evaluators to teachers, planners, and administrators.

II. OVERVIEW OF THE ENGLISH PROJECT

A. DESCRIPTION OF THE HAWAII CURRICULUM CENTER AND THE ENGLISH PROJECT

The English Project is the major curriculum development effort of the Hawaii Curriculum Center. Drawing upon the resources of its sponsors, the Department of Education and the University of Hawaii, and assisted by a grant under Title III of the Elementary and Secondary Education Act, the Center brings together master teachers, academic scholars, and curriculum specialists to work on the problems of upgrading the school curriculum.

The English Project, begun in 1966, was charged with producing a tested curriculum in English for all grades from kindergarten through high school, together with a plan for its installation in the schools of Hawaii and dissemination elsewhere.[1] The project employs a staff of some fifty persons, including university specialists and master teachers in the fields of English, writers, evaluation specialists, media technicians, and clerical staff. The output of the project will be substantial: materials for students; background materials for teachers; appropriate kinds of tests; supporting equipment and media; and teacher training programs.

In defining the field of English for the schools, curriculum planners undertook to articulate a coherent theory which would logically incorporate and integrate those matters that belong to English and eliminate those that do not. They adopted a view of school English as inquiry into the English language and into literature as the creative use of the language. Instruction in language skills is subsumed under the study of language and literature after children achieve basic literacy.

The curriculum under development has three related strands. (See Appendix 1.) All beginners enter a Language Skills subprogram whose goal is effective communication in language. Children select and enter the various skills sequences at their own level and move ahead at their own rate with the help of many learning tools -- including card stacks, card readers, playback devices, typewriters, films, and games -- until they reach a stage of independent learning in English (defined as sixth-grade competence in reading, listening, speaking, and writing). Literature is introduced early via taped selections for listening. Then, as the children's need for work on skills lessens, their time spent with literature increases.

The Literature subprogram has as its goal for students engagement with literature in a progressively discriminating way, until at length they turn to it for pleasure and instruction, have a mature and eclectic taste for it, and are able to respond to its infinite varieties and values.

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[1] By action of the 1969 Legislature, the scope of the project was reduced to grades K-6 only. Work on the curriculum for grades 7-12 is suspended for fiscal year 1969-70.

The subprogram in literature is divided into six consecutive "bands" keyed loosely to grade levels with attention to interest and ability. Although the performance goals for each band focus on specific literary concepts, selections at lower levels are centered around content, at higher levels around literary concerns.

The selections distributed throughout the curriculum represent world literature including legendary materials; Hawaiiana; great works in the British and American traditions; contemporary works written in English from all over the world; translations of works from Europe, the Orient, and the Pacific; poetry and a variety of non-fiction. Activities are selected to encourage engagement with literature.

The Language Systems subprogram is a sequence of inquiries into language behavior which incorporates the insights and processes of modern linguistic science and related studies. The elementary segment (beginning at grade four) examines the nature of communication in general through investigations into areas such as animal communication, sign languages, the language of advertising, an international language (Esperanto), non verbal communication, and secret codes. The junior high program will deal with the central problems and concerns of linguistics itself -- in particular, man's capacity to construct and internalize at a very early age a highly intricate set of rules by which he is able to understand and generate an infinite variety of sentences. The proposed senior high school program will focus on language and culture. It will help the student to synthesize what he has learned earlier and to consider the overlap of linguistics with other disciplines -- psychology, anthropology, sociology, mathematics, and literature.

The whole English curriculum is conceived as a continuum rather than a series of grade-bound segments. There will be a wide diversity of materials, selections, and activities, so that students, regardless of their ability, will find a pattern of study attractive to them individually.

B. RELATION OF THE ENGLISH PROJECT TO OBJECTIVES OF TITLE III OF THE ELEMENTARY AND SECONDARY EDUCATION ACT

The English Project blends the purposes of Title III legislation and Hawaii Department of Education objectives with more particular objectives of its own. The thrust of Title III programs is to foster innovation in education; the Department of Education aims to provide quality education for all students and to remedy inadequacies in school English programs.

Title III objectives are set forth in A Manual for Project Applicants and Grantees.

> The Title III program . . . is designed to encourage school districts to develop imaginative solutions to educational problems, to more effectively utilize research findings, and to create, design, and make intelligent use of supplementary centers and services . . . . Projects may be developed which (1) invent a

> creative solution to a problem, (2) demonstrate an exemplary program which might be suitable for widespread use, (3) adapt an exemplary program to local requirements and organize its incorporation in the education program. Many projects will, of course, combine these functions.[2]

The Hawaii Curriculum Center was established to assist the Department of Education in meeting Title III's triple challenge: to invent, demonstrate and implement innovative solutions to persistent problems in schooling. The Center is itself a unique attempt to create an environment conducive to fruitful collaboration among those in the Department of Education and in the University who have knowledge useful in curriculum building.

1. Inventing Solutions

The English Project from its inception has striven to meet the challenge of inventiveness in remedying the serious weaknesses in language arts programs cited in the Curriculum Survey Report of 1965. (See Appendix 2.) First the staff undertook to lay a comprehensive theoretical base upon which to build the design of the new curriculum. The design then accommodates the theory to the notion of schooling as apprenticeship in learning, to knowledge of how children learn, and to the particular needs of Hawaii's children. The design incorporates fresh approaches throughout. Among the salient emphases incorporated in one or more strands of the new curriculum are the following:

Individualization of instruction through a range of learning tools, organizational arrangements, and opportunities for self-choice, self-direction, and self-tracking

Specificity of instructional objectives and achievement levels

Built-in evaluation

Inductive and discovery approach to learning

Activity-centered learning through games, drama, writing, and other creative activities

Greater use of non-text modes of educational presentation

Peer teaching

Effective early education to obviate the need for remedial education

Other innovations are in the curriculum content itself, such as the unique collection of Pacific literature and the completely new content of the Language Systems units.

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[2]Washington, D.C.: U.S. Office of Education, 1967, p. 1.

The use of a systems approach to operations, incorporating such management techniques as PPBS (Program Planning and Budgeting System) and PERT (Program Evaluation and Review Technique), is also a new departure in curriculum building in Hawaii.

2. Demonstrating Solutions

The exemplary English program being developed by the project staff was tested and demonstrated in sixteen classrooms in six schools designated as field schools. As more materials are readied, the scope of the demonstration will expand until finally the curriculum is part of the regular instructional program in Hawaii's public schools and those private ones that elect to use it. During the past year hundreds of people from Hawaii, other states, and foreign countries have visited the demonstration schools to see the Language Skills subprogram in use by children. Their comments are summarized in Appendix 3. The English Project is also being widely publicized through a large-scale display of materials that has been shown at conventions, PTA meetings, and other events and places throughout the State. Slide showings and presentations have also been made in Hawaii and on the mainland.

3. Implementing Solutions

The nature of the English Project as a supplementary activity to ongoing operations of the Department of Education has value not only in assuring the preparation of a curriculum adapted to local requirements, but also in facilitating its installation in the schools. When the new curriculum is approved for widespread use, it will be implemented by the Department of Education with the help of the Curriculum Center according to a jointly-developed comprehensive plan for training teachers, supplying materials, and phasing the new curriculum into the schools.

C. EVALUATION MODEL FOR THE ENGLISH PROJECT

The evaluation model (attached as Appendix 4) received detailed review by an evaluation committee and has undergone four revisions throughout the year as new insights have been gained by the evaluation specialists and project staff. This document is essentially a model for evaluating the English Project rather than a model of the evaluation that has actually been performed. It specifies some activities that the evaluation specialists believe should be performed as part of a comprehensive evaluation, even though some of these activities have not been undertaken this year. The intention is that next year's evaluation will more closely approach the model while at the same time the model will be reshaped to accommodate the realities of the environment.

This report will take up the three subprograms that comprise the English Project curriculum. Although the model describes areas to be evaluated during the complete cycle of development, the evaluation during 1968-69 focused primarily on the Language Skills subprogram, since it was already in operation in field schools.

III. LANGUAGE SKILLS SUBPROGRAM

A. THE DESIGN OF THE EVALUATION

The Language Skills evaluation design enunciates the premises which guide the evaluation, the purposes of the evaluation, the areas selected for evaluation, the instruments used and their purposes, the personnel participating, and the procedures for recording and reporting practices. A detailed summary of the evaluation design is attached as Appendix 5.

The primary purpose of the evaluation effort was to provide information useful in revising the curriculum programs and assessing progress to date. The evaluation focused upon the environment in which the curriculum was taught, the operational procedures, and the prototype outcomes. Instruments used included classroom records, classroom observers, feedback sheets, diagnostic tests, performance tests, academic potential measures, case studies, interviews, Q-sorts, questionnaires, teacher ratings, and equipment utilization counters.

In addition to the Curriculum Center staff, two VISTA workers and eight parents hired as data collectors assisted in the evaluation by observing field-school classrooms and recording pertinent data.

Quarterly evaluation reports had been planned, but prompt reporting of information to the project manager and planners at weekly staff meetings proved more timely and helpful in guiding revisions of materials.

The results of the Language Skills evaluation are reported here in three categories: (1) environmental variables (those factors affecting the context in which the program operates), (2) program variables (the goals, objectives, activities, and materials in the program and the participants' perceptions of and attitudes toward them) and (3) prototype outcome variables (the effects of the trial of prototype materials).

B. ENVIRONMENTAL VARIABLES

1. Field school communities

The Language Skills materials were tried out in four field schools on Molokai (Kilohana, Kaunakakai, Kualapuu, and Maunaloa), at Kalihi-Uka school in Honolulu, and at the Laboratory School of the University of Hawaii during the school year 1968-69. These six schools encompass a spectrum of social, economic, educational, ethnic, and ability differentials. (See Appendix 6 for details and statistics.) Molokai is a rural island where a mixed ethnic population makes a living largely from pineapple fields, cattle ranches, and the sea. Roughly half of the fathers of school children there have finished high school, and the average family income is under $6,000 a year. The Kalihi-Uka community presents a similar ethnic and economic mix in a densely populated urban environment.

The University Laboratory School children span the whole gamut of socio-economic strata with a large proportion from high occupational and educational levels. Half the fathers of kindergarteners and first graders are in professional, executive, and skilled work. Over 40 per cent have gone through college or beyond, and only 11 per cent did not finish high school.

2. Students

Kindergarteners and first graders participating in the trial of the Language Skills materials totaled 264 in the four Molokai schools and 201 in Kalihi-Uka. Laboratory School tryouts involved 108 children, including 34 second graders in combined K-2 classes. The academic potential of these children as measured by the Kuhlmann-Anderson Test (7th edition) averaged between 95 and 102 for kindergarten classes in Kalihi-Uka and the Molokai schools; 112 in the Laboratory School. First-grade averages ran from 96 to 109 in Kalihi-Uka and Molokai classes, the average was 125 in the Laboratory school. (See Appendix 7.)

3. Teachers

Nine teachers at Kalihi-Uka, 15 on Molokai, and four at the Laboratory School participated in the testing program. The pertinent variables selected for teachers were years of experience, education, participation in the 1967-68 project field-testing, and attendance at either the 1967 or 1968 English Project summer training institute. Of the 28, 10 had six to ten years of experience, 10 had less, eight had more. Nine hold the B.A., 14 the professional diploma, 3 the master's degree. (Two were unreported.) Twelve had participated in the program last year; 18 had attended one of the two teacher training institutes. (See Appendix 8.)

C. PROGRAM VARIABLES

1. Goals and objectives[3]

The goal of the Language Skills staff is to devise learning tools for use in individualizing programs of instruction which will take pupils to the sixth-grade ability level in the graphic and oral representations of language and at the same time help them become self-directed learners.

Curriculum planners are developing a continuum of objectives in reading, writing, and listening/speaking that are sequenced from simple to complex. A variety of materials with optional modes of presentation leads to these objectives. These tools give the teacher a wide range of alternatives for guiding each child's learning in the most appropriate manner.

Self-directed learning is supported by an environment in which children engage in independent study using self-instructional materials, work in groups of two to four tutoring each other and checking each other's performance, set their own goals, and keep their own performance records.

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[3]Acknowledgement is made of the contribution of the Language Skills planners, and in particular to Gerald Dykstra,and Ann Port, in stating the program goals, objectives, and assumptions.

The classroom is arranged to accommodate the whole range of learning activities and tools. Instead of rows of desks, there are stations equipped for reading, listening to records and tapes, writing, typewriting, working with card stacks and Language Masters. (See Section 3 below, Component Units in the Language Skills Subprogram, for descriptions of the devices and materials provided in the stations.) Tables and chairs are so arranged that pairs or groups of children can work together. A sample floor plan is shown in Appendix 9.

No stipulation is made as to the time allowed for a child to achieve sixth-grade competence in language skills. Once a child reaches this level, he continues to advance in language skills while studying literature, language systems, and other school subjects.

Behavioral objectives for each component of the program are presented in the description of component units found in Appendix 10. The Teacher's Manual lists entry requirements for each component, activities for reaching the objective, procedures and criteria for measuring successful accomplishment (usually 90 to 100 per cent on the criterion measure), and guides for alternate or subsequent programs. In most schools a quarterly progress report was sent home to parents. It states components in terms of objective outcomes and tells parents which programs the child was diagnosed as not needing, which ones he is working on, and which ones he has completed. A quarterly student rating by classroom teachers on nine skills related to self-directed learning is also a part of this progress report. A sample report card is attached as Appendix 11 of this document.

The Language Skills program is more than a collection of individualized materials; it is a comprehensive and coherent learning "system." (See Appendix 12 for a schematic representation.) It embodies an innovative philosophy of education incorporating new concepts of classroom organization and grouping, as well as teacher roles. During 1968-69 most of the classrooms participating in the program contained both kindergarten and first-grade students. Next year many of these classes will include second-graders as well, thus providing a richer opportunity for more experienced students to help the less experienced and serve as models for them to imitate. The tutors will benefit in turn from communicating what they have learned.

Planners' projections of student progress in reading, handwriting, typing, and listening/speaking are listed in Appendix 13 for both kindergarten and first-grade students together with a discussion of actual outcomes. These projections, made early in the second semester, show the minimal level of progress expected for 95 per cent of the students, for 50 per cent, and for the top 5 per cent.

2. Program assumptions

Certain assumptions underlie the philosophy of the Language Skills Subprogram. Among the most essential are these five:

a. Children differ in background, in interests, in styles of learning, in aptitude and speed, in thresholds for boredom, in educational needs, in need for indications of success, and in need to participate in decisions affecting their own activities.

b. Each child's needs, abilities, and interests must be considered if he is to acquire a proficiency in language skills.

c. It is necessary to individualize instruction in accordance with each child's previous achievement, rate of learning, style of learning, and interest.

d. The teacher's roles in the program are to 1) organize and manage the learning environment; 2) diagnose each child; 3) facilitate self-directed learning by encouraging participation in the selection of goals, materials, and modes; 4) maximize opportunities for success by guiding pupil selections; 5) monitor the progress of each child; and 6) serve as a model of the scholar at work. Conversely, her role does not include lecturing or disseminating information to be learned.

e. Under proper supervision, children can learn effectively from other children in the class.

3. Component units in the Language Skills subprogram during 1968-69

Appendix 10 lists and describes the specific objectives and materials used in the program. In the reading program, spindled or bound stacks of cards showing pairs of letters, words, phrases, and numbers are used by pupils to learn to discriminate differences between written symbols. Sets of Language Master cards match sound with symbol: the child slides the card into a slot in a machine which plays the word, phrase, or sentence shown on the card. A library of 160 books graded according to difficulty into twenty levels permits the child to move along to more fluency in reading. Other kits of books (Basic Reading Series, Science Research Associates sets) intersperse readings with comprehension checks.

In writing, sets of cards with flocked letters to trace with the finger, laminated books of models to copy, and film loops for use in a technicolor projector are available for the child to use.

Books in the typewriting series move from single letter models to full paragraphs and eventually to free composition.

The Language Master is the mainstay of the early listening and speaking components. Sets of sight-and-sound cards help dialect-speaking children to hear and produce English sounds that are difficult for them. The cards are also used to teach shapes, colors, and the alphabet. Grammar games, songs, and tapes of books from the reading collection are also provided.

4. Program activities of students

To get some idea of how children spend their time in the Language Skills subprogram, where learning tools are supplied but activities are more or less freely selected, the evaluation staff monitored classrooms at Kalihi-Uka School between March and June, recording the amount of time pupils spent in different kinds of activities. (Procedures used and findings are reported in detail in Appendix 14.) Conditions were set which, if met, were presumed to validate the claim for individualization of instruction in Language Skills: first, that the pupil spends most of his time in study alone or with a partner, relatively little in total class activities; second, that sufficient options are available to meet his needs and interests; and third, that he has the option (especially early in kindergarten) of doing things other than language arts if he prefers.

It was found that during the two-hour language arts period children spent 41.3 per cent of their time in independent instruction (using cards, books, and equipment); 19.7 per cent in pupil-pupil activity (working together on cards, games, books, and the like); 5.5 per cent with the teacher; 10.5 per cent in small groups (using the record player, tape recorder, books, and games); 1.4 per cent in total class activity; and 21.6 per cent in activities not part of language arts (such as wandering about, talking, painting, playing). In summary, pupils spent more than 75 per cent of their time working on language arts activities -- alone, in pairs, with the teacher, or in small groups -- and only a tiny portion in total class activity. These findings substantiate the claim that the Language Skills subprogram meets the conditions set for an individualized course of study. The freedom not to work on skills at all -- an intrinsic part of the self-directed learning concept -- was also exercised about a fifth of the time.

5. Curriculum revision activities

For a program still in the development stage, more effort goes into getting data for refining or revising materials than into judging how effective the product is. Before school began, curriculum planners put to the evaluation specialist the questions that needed to be answered so that the planners could revise the components they were working on. They needed to know which modes worked well and which did not, which sustained interest, which seemed too easy or too difficult. They needed judgments on the sequencing of the materials, on the effectiveness of differing modes, and dozens of other matters. The evaluation specialist devised procedures and forms for collecting, analyzing, and reporting the needed data. Appendix 15 describes the system and shows samples of the record forms used.

6. Perceptions of the program

An instructional program is no better than it is perceived to be, regardless of its intrinsic merit, because negative attitudes can blunt

or block its effect. If teachers, parents, or principals are negative toward it, their feelings can rub off on the children. The attitudes and reactions of outside observers, especially knowledgeable and perceptive ones, also are useful as clues to deficiencies calling for attention. For these reasons the perceptions of persons in or related to the Language Skills program are important. The responses of students, teachers, data collectors, principals, parents, and visitors were sought and examined.

a. Students

Responses to the Language Skills subprogram from forty randomly sampled students interviewed individually at Kalihi-Uka and the Laboratory School were quite positive. All the children liked school, and 31 gave answers that showed a particular preference for language arts activities. Thirty-eight liked the freedom to select their own programs and 29 were actually doing it. Thirty-eight liked to tutor other children while 34 said that they liked to have another child tutor them. Fifteen children were able to see and tell the purpose of specific activities. All but one of the forty felt they were doing well in Language Skills -- an important finding, since a sense of success frequently predisposes a child to successful accomplishment. (See Appendix 16 for a fuller report.)

b. Teachers

Teachers' perceptions of the program were communicated casually through notes and comments to planners and evaluators and in discussions during bi-monthly meetings between planners and Kalihi-Uka teachers. Reactions were solicited more formally at an evaluation workshop in late May and through a Q-sort for assessing attitudes. The planners shared teachers' reactions and suggestions at the planners' weekly meeting and considered them as they developed or revised materials.

Written comments from Molokai teachers, often channeled to planners by the District Coordinator, noted such matters as the need for additional copies of materials, prevailing practice among pupils in classrooms, materials or procedures needing attention of some kind, and recommendations for filling apparent gaps. Teachers commented, in somewhat more detail, on the same matters when planners or evaluators visited the classes. Their oral comments gave valuable clues to their perceptions of the entire Language Skills subprogram. The general consensus of enthusiasm is summarized in one teacher's comment that she wouldn't want to go back to the old ways and that although she found the new program more tiring, she had a greater sense of accomplishment at the end of each day.

The workshop held on May 24 for evaluating the 1968-69 field trials and soliciting reactions to plans for next year was attended by

25 teachers and 15 Curriculum Center staff members. A general briefing on evaluation was followed by small workshop sessions in which the following topics were taken up: reading; writing; listening/speaking; typewriting; classroom organization and record keeping; potential and problems of peer teaching; evaluating the evaluation; teacher training; observing individualized instruction; and improving communication among teachers, planners, evaluators, and administrators. A summary of comments and suggestions under each of these headings is attached as Appendix 17. The sessions were fruitful for both teachers and planners. The teachers welcomed the opportunity to talk things over, and the planners came away with some very useful recommendations.

The Q-sort technique was used to analyze and compare the attitudes of 24 teachers and nine planners. They were asked to sort 48 statement cards into nine categories ranging from "strongly agree" to "strongly disagree." The statements had to do with individualized instruction, curriculum content, classroom activities and organization, peer teaching, the teacher's role and training, the nature of the learner, and outside influences on the curriculum. The purpose was to find out teachers' attitudes and to discover discrepancies between the responses of teachers and planners as a clue to planning the six-week summer workshop for training teachers. The results (Appendix B) showed high congruence of attitude between the two groups. Teachers and planners both recognize variations in interest and aptitude for language skills among children and agree that a sense of personal worth is needed if a child is to progress. Both groups doubted the value of traditional letter grades in individualized instructional programs. There was less unanimity among the teachers than among the planners, who had together arrived at a consensus in the process of designing the curriculum and preparing the materials.

c. Data collectors

Eight mothers were employed to record data for two hours each day in the eight classrooms at Kalihi-Uka School. For two of them, this was the first experience working with children in school. All eight were interviewed to discover how they liked the work, what aspects of it they found rewarding or frustrating, and what they thought of the Language Skills subprogram. Their responses to the ten questions asked are described in Appendix 19. All enjoyed working with children and seeing them progress. They found their task uninteresting only when children became impatient, bored, frustrated, or restless at their work. This happened when the children were obliged to read something a second or third time or to go over material they had not yet mastered.

d. Principals

In late April and early May the evaluation specialist interviewed

the principals of the six schools to discover their opinions about the program, to get their suggestions for improving it, and to find out their views of their roles in the project. The principals favored the program and spoke freely of both its positive and negative effects on students, teachers, and the total school program. They shared comments of students, teachers, parents, and visitors and made many suggestions for improving the program and disseminating it to the community. Among the strengths reported by the principals were the childrens' progress in language use and in self-reliance. Four of them felt that the record-keeping demands were excessive and two thought that the report cards were overly complicated. Appendix 20 contains a full report of the principals' responses to the questions.

e. Parents

To get some notion of parents' awareness of and response to the Language Skills subprogram, an evaluation specialist interviewed ten parents of randomly-sampled children in the program, eight at Kalihi-Uka and two at the Laboratory School. Nine parents thought that the program was helping their children. Some cited specific evidence, such as the child's taking initiative in getting books to read. Without exception, the parents thought it a good idea to begin reading, writing, and typing in kindergarten. Eight favored the peer-teaching idea, although two of them doubted the tutor's competence and questioned whether tutoring would impede the learning of the tutor. Four parents felt that the report card was hard to understand. (See Appendix 21 for summary of parents' responses.)

f. Visitors

The remarks and judgments of visitors are useful for evaluation because they foreshadow the response of the public and the profession. Furthermore, their questions point to matters which must be attended to in publicizing and implementing the program.

A visitor log kept by District Coordinators and secretaries shows that over 600 persons visited the project headquarters or field-school classrooms between January and May. Visitor guides kept a record of questions and comments made by visitors. (See Appendix 3.) In addition, over a hundred visitors completed a questionnaire and returned it by mail to the evaluation section after their visit.

The questionnaire asked which aspects of the curriculum they found desirable and undesirable and which ones they would be interested in initiating. The individualization of instruction and the variety and adequacy of the materials were singled out for praise by a large number of the visitors. Some expressed concern about the volume of record keeping done by some teachers and the difficulty of monitoring the learning progress of children following different routines. Others questioned the rationale for specific emphases or pointed to gaps they considered crucial. The aspects of the curriculum they were interested in initiating covered a wide range; sundry

strategies and materials for individualizing instruction were most often mentioned. (See Appendix 22 for a complete record of responses.)

g. Summary of perceptions of the Language Skills subprogram

The reactions of all groups interviewed were generally positive. Students seemed to enjoy language arts; teachers expressed a sense of accomplishment; parents seemed satisfied that their children were learning; visitors were impressed with the program's variety and versatility. Two factors appear to require special attention: record-keeping and peer-tutoring.

7. Materials and equipment

Materials and equipment were evaluated on the basis of student preferences, ratings by teachers and planners, use by students, time required to complete sequences, and amount of repair needed.

a. Student preferences

An inventory of what modes children liked and disliked was administered to all students in those classrooms having the following: laminated writing books, Language Master, card stacks, film loop projector, flocked cards, reading books, and typewriter. (However, certain classrooms were without the film loop projector at the time of the survey.)

Some generalizations can be made on the basis of the inventory. The most favored media were the typewriter and the card stacks; least favored were the flocked cards, the film loop projector, and the Language Master. The rankings vary significantly from one school to another. The flocked card mode was the only one to vary significantly by grade level. It appealed to some kindergarteners and a few first-graders, but not to second-graders. (See Appendix 23 for further information and data.)

A second survey was made two weeks after the first. A total sample of 40 children from Kalihi-Uka and the Laboratory School were asked to separate picture cards of seven kinds of media into two piles, those they liked and those they disliked. Although many had changed their minds during the interval, there was a high correlation between the most liked on the first survey and those liked on the second survey. Similarly, there was a high correlation between the least liked on the first survey and those disliked on the second survey. The reasons the children gave for their likes or dislikes most often had to do with their sense of success or failure, less often with whether or not the unit was fun to use.

b. Teacher and planner equipment preferences

The preferences of teachers and planners were ascertained through an

equipment purchase simulation. They were asked to allocate 100 chips to the purchase of eight equipment items of varying chip values for kindergarten classes in the way they felt would contribute most to accomplishing the objectives of the Language Skills program. The number of units of each kind requested by Kalihi-Uka and Molokai teachers and by the planners is shown in Appendix 24. The data show that teachers would prefer fewer reading book sets, typewriters, film loop projectors, and tape recorders and more Language Masters and record players than the planners would.

It is interesting to note that the Molokai teachers' preference for the Language Master is paralleled by the pupils' high ranking of it, whereas at Kalihi-Uka teachers and students both favored the card stacks. However, no cause-effect conclusions can be drawn from the data. Perhaps teacher and student attitudes were mutually reinforcing.

Teachers taking part in the simulation were asked to answer four questions, three of which had to do specifically with the use of the Language Master. There was wide disagreement about its appeal and usefulness. Suggestions for improvement were very specific, having to do with technical matters (quality of voice reproduction, repair service), pedagogical matters (use of words and pictures more familiar to children, ways of eliciting responses), and practical matters (size and number of cards, ways of checking children's progress). Nearly all these suggestions are being acted upon by planners. (See Appendix 25 for summary of responses.)

c. Teacher rating scale for Language Skills materials

A rating scale was devised to determine the teachers' judgment concerning the frequency of use and the suitability of individual materials for meeting the objectives of the skills subprogram. These data were collected to provide one type of evidence useful in streamlining the curriculum package. Teachers were asked to rank specific items in the reading, writing, and listening/speaking programs in three levels of frequency of use, and four levels of suitability. Where they gave an item the lowest ranking, they were asked to tell why. The results of the survey were tabulated for use by the project manager and planners. (See Appendix 26.)

d. Time required for completion of selected Language Skills sets of materials

Several teachers regularly recorded the dates their pupils entered and completed each program. At the end of the year the records for one three-on-two classroom[4] on Molokai and one self-contained classroom at Kalihi-Uka were analyzed. The completion times in numbers of school days from entry to completion of selected materials were tabulated.

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[4]A classroom in which three teachers take care of two classes that combine more than a single grade level.

The records do not, however, show the amount of time a child spent on the materials each day, the number of other programs he was working on at the time, nor the days he was absent. Likewise, there is little data on beginning programs and advanced programs, since fewer pupils used them.

The summary shows a tremendous range in the length of time required for students to complete each program. This evidence tends to substantiate the need for programs that are adaptable to individual learning rates and styles. The data also confirm the observation of planners that as children progress through a sequenced program to sets of approximately the same quantity at higher levels, the time they need to complete a set decreases. (See Appendix 27.) This indicates that students gain speed as they advance through the materials.

e. Equipment repair record

Six types of data were collected on the repair of equipment used in the Language Skills classrooms: the number of units of each type in use in the field schools; the number of units needing repair; the number repaired at the school, at the Curriculum Center, and by an outside agency; the average repair cost; the most frequently needed repairs; and the average length of time the equipment was out of use for repairs. These data were collected to provide project administrators with a picture of the reliability of various types of equipment so that they could determine which ones perform acceptably and what changes need to be made in purchasing, modifying, maintaining, and repairing the units. (See Appendix 28 for specific findings.)

The Curriculum Center's media specialist considered the breakdown rate excessive for the Language Master and the film loop projector, but acceptable for the other types of equipment. Plans for next year call for the purchase of new Language Masters. Super 8 film loop projectors will replace the standard 8 mm projector. Instruction on media use and maintenance is being given to teachers in the summer training program with the expectation of reducing the number of units sent in for repair.

Modifications in the equipment repair procedures are being considered which will permit schools to send equipment directly to a repair agency in order to expedite its return to the classroom. Service agreements with the vendor are also being explored.

D. PROTOTYPE OUTCOME VARIABLES

1. Student performance in language skills

Sixteen language skills programs were selected for systematic monitoring this year. Appendix 29 lists these programs together with the number of kindergarten, first, and second-grade children for whom report card data were available. In most cases there were data on 224 kindergarteners, 241 first graders, and 34 second graders -- that is, 93 per cent of the

children in the program. This figure encompasses all types of children, including those with learning disabilities. The other 7 per cent were those who transferred out of the program during the last grading period or whose report cards were missing. Several programs, such as typewriting, were not supplied in certain classrooms; hence the percentages for these are based on fewer students.

Since Language Skills is an individualized instructional program, it was decided that the predicting and reporting of group progress in mean performance terms was insufficient. Instead, a range of expectations of performance was projected.

Children's progress in skills was then measured by comparing the planners' expectations at the beginning of the second semester with actual outcomes by June 1969. For each of the language skills, three levels of expected achievement for kindergarten and for first grades were projected by the planners -- a minimal level (to be achieved by 95 per cent of the children); an average level (to be achieved by 50 per cent of the children); and a high performance level (to be achieved by 5 per cent of the children). (See Appendix 13)

Chart 1 compares curriculum planners' projections with students' achievement in language skills. The figures in parentheses following each projection show the actual outcomes. For example, while it was projected that 95 per cent of all kindergarten children in the program would be able to discriminate between letters of the alphabet by the end of the school year, the data revealed that 100 per cent of the kindergarteners achieved this objective.

In considering the 24 projections for kindergarten and first grade students for all four areas of the Language Skills subprogram, there were five cases where actual performance exceeded projections by more than 10 per cent and only one case (the program for dialect speakers) where the performance was more than 10 per cent below the projection. In this case it was found that some of the students recorded as not having started the program were not in need of it, although some teachers did not record this distinction. These data indicate that the Language Skills subprogram for 1968-69 has met the expectations of the curriculum planners. The actual outcomes recorded will serve as baseline data for next year.

2. Student performance in self-directed learning skills

The progress of Kalihi-Uka kindergarten and first-grade children in directing their own learning was assessed by comparing teachers' ratings during the first and fourth quarters of the school year (See Appendix 30). Pupils were rated on their ability to plan an activity, to change activities without teacher direction, to work independently, to gather the materials needed, to read their names and find their stickers in

CHART 1

Comparisons of Curriculum Planners' Projections with Actual Outcomes for Kindergarten and First-Grade Student Achievement in the Language Skills Program by June 1969*

	Percentage of students projected to achieve these objectives	Reading	Handwriting	Listng./Spkg.	Typewriting
KINDERGARTEN	95%	Discriminate between letters of the alphabet (100%)	Copy numbers 1 to 10 accurately (93%)	Identify and name 11 selected colors (85%)	Type the initial exercises in the first typing program (91%)
	50%	Read over 60 words (60%)	Copy small letters accurately (66%)	Complete the 1st 2 grammar games (54%)	Type 17 lessons in the big letters unit from a model with correct fingering (70%)
	5%	Read over 20 books (2 children read over 35 books)	Copy 4-word sentences accurately (50% completed the sentences correctly)	Complete the Dialect Markers and colors and shapes programs (10% reached the higher level)	Type large and small letters from a model with correct fingering (86%)
FIRST GRADE	95%	Discriminate between words (97.6%)	Copy numbers & small letters accurately (96% on numbers; 89% on small letters)	Discriminate between the first 5 sets of sounds in the Dialect Markers program (66%)	Type 17 lessons in the big letters unit with correct fingering (86%)
	50%	Read over 10 books (46%)	Copy 4-word sentences accurately (83%)	Identify and name 10 geometric shapes (45%)	Type all 54 lessons in the big letters unit (67%)
	5%	Read over 35 books with adequate comprehension (11% read over 35 books)	Write original sentences (2 children reached this level)	Complete Dialect Markers, colors & shapes, & grammar programs (3 children completed all of these programs)	Compose personal letters at the typewriter (At least 1 child was observed to have composed personal letters at the typewriter)

* Figures in parantheses refer to the actual outcomes by kindergarten or first grade children.

a program,[5] to put their materials away after using them, to accept tutoring from other children, to help others learn, and to mark their own progress in their record folders.

The students improved most in planning their own activities. They progressed perceptibly in changing activities without teacher help, in reading their names and finding their stickers in programs, and in marking their progress in their record folders. The least gain was recorded in willingness to accept tutoring from other children. This finding suggests that readiness to accept help may be a function of a child's personality or value system rather than of classroom training and that new ways may need to be found for encouraging children to receive assistance from each other.

An analysis of teacher ratings on self-directed learning skills during the fourth quarter shows that girls scored somewhat higher than boys, first graders higher than kindergarteners. The single exception is in willingness to be helped by other children. Kindergarteners are apparently less inhibited about receiving help from peers than are first graders. This evidence implies that first graders may be unwilling to accept tutoring from those they consider to be their equals or inferiors. If so, it gives a clue for improving the peer-tutoring practice next year.

3. Case studies

The case study technique was used to develop hypotheses about how different kinds of children perform in the skills programs and how they are affected by them, to identify variables that might correlate with success or failure in the program, and to explore variables that should be included in a longitudinal study of the program.

Subjects for the year-long study were randomly selected from the eight K-1 classrooms at Kalihi-Uka in such a way that there was one pupil from each classroom and one in each of eight categories: dialect speakers with high, medium, and low IQs; standard speakers with high, medium, and low IQs; a mentally retarded child; and an emotionally disturbed child. Mental retardation, as defined for this study, is an IQ of 69 or below. An emotionally disturbed child was one who had been so diagnosed by the school psychologist or guidance counselor. Ranges for high, medium, and low IQs were taken from the classifications listed in the 1960 revision of the Stanford-Binet manual: high = 110-119; medium = 90-109; low = 80-89.

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[5] Stickers are adhesive name tags the children use to mark their place in the materials they are working on; when they finish a component they put the sticker in their record folder to indicate that they have completed that component.

Several months after the case studies were initiated, it was decided to include in the study one child who made very rapid progress and one who worked on the program under parental duress. These latter two were from a K-2 class and a Head Start class in the Laboratory School.

Data were gathered from records and observations. Teachers in each of the ten classes helped by completing questionnaires and interviews about the children's social, emotional, and academic background. Information about their home life and physical health was obtained from the cumulative files and the guidance counselor. Questions about children's behavior patterns were answered through interviews with teachers in alternate months. A data collector observed each child several times, recording his activities in class. Attitudes were judged from the children's responses in an interview. School report cards were the source of data for the number of programs completed, progress in certain key programs, and growth in self-directed learning. Finally, teachers were asked to indicate significant changes in behavior during the year. Condensed syntheses of the information collected from the ten case studies are attached as Appendix 31.

From the case studies there emerged seven hypotheses for further investigation:

a. A substantial portion of the variation in progress is accounted for by such teacher variables as attitude toward the programs, the degree to which she stresses student choice, and the amount of attention she gives to individual children.

b. Standard IQ test measurements are less effective as predictors of student success in this program than they are in traditional language skills programs. More effective predictors should be sought.

c. The range of student performance in language skills is greater within a single grade level than is the range between grade levels. If this finding is substantiated it will support the decision to combine students from several grade levels within the same classroom.

d. Student success in tutoring will be improved by better instruction in the how and why of tutoring and by allowing tutors more choice in whom they tutor.

e. A more precise system should be developed for measuring and comparing achievement in language skills and in self-directed learning skills.

f. There is no significant correlation between programs children say they enjoy and programs in which they participate most frequently or make most progress.

g. Data collected from case studies will assist curriculum planners in better understanding the effects of programs on children only if frequent interchange of information occurs between the data collectors and the planners. (Much of the value of the case studies this year was lost by not providing timely information to the planners.)

4. Annual performance tests

Review tests in reading, writing, typewriting, and listening/speaking, were used to discover what students had mastered during the school year. Everyone took the writing test; the other three tests were administered to a random sample of students in the program.

a. Reading

Reading ability was assessed by using a special stack of 50 cards -- 10 for discriminating pairs of words, 8 for large letters and 8 for small letters, 16 for reading individual words, and 8 for reading sentences. Thirty-two Kalihi-Uka children -- a kindergarten boy and girl and a first-grade boy and girl from each of the eight classrooms -- took the reading stack test. Their scores are summarized in Appendix 32.

On word discrimination and large letters, kindergarteners did about as well as first graders. On the other objectives, first graders scored higher, with girls doing better than boys on the more difficult cards. Of the 16 first graders, five could read none of the eight sentences without making errors. However, six of the 16 kindergarteners were able to read at least one sentence without making errors.

b. Writing

Three parallel forms of a short test booklet were used to measure progress in writing numbers, letters, letter combinations, words, and short sentences. It should be noted that, except in one class, children were taught cursive writing but not manuscript. Still, since many had picked up manuscript one way or another, they were permitted to write their names either way on the test booklets. Preferences in using cursive writing went from only 15 per cent in kindergarten to 42 per cent in first grade to 63 per cent in second grade. Preference for manuscript went from 44 per cent in kindergarten to 26 per cent in first grade and 20 per cent in second grade. The incidence of mixed writing went down from 29 per cent in kindergarten to 23 per cent in first grade to 10 per cent in second grade.

In nearly all cases, girls made fewer errors in copying than boys did. The more difficult the task, the bigger the gap became.

In copying a four-word sentence in cursive style correctly, 50 per

cent of kindergarten children, 83 per cent of first graders, and 95 per cent of second graders were successful.

Data from the handwriting test are being studied carefully for clues to better sequencing of tasks within the writing materials. Analysis of data by classrooms should show whether or not certain programs (for example, the trace-and-write set on film loops used in some classes) make a difference. The confusion of cursive and manuscript styles in kindergarten and grade one raises some questions for the planners to consider.

c. Listening/Speaking

In may, 240 students were part of a study designed to compare the sound-discriminating ability of younger and older children, of dialect speakers and standard speakers, and of students in the Sounds of English program and those not in the program. Forty students were randomly selected in each of grades kindergarten, 1, 3, and 5 at Kalihi-Uka School. A control group of 40 kindergarten pupils and 40 first graders was randomly selected at Kaiulani School, where the student body is comparable to Kalihi-Uka's in ability and background.

Sixty-five pairs of words exhibiting a subtle sound distinction were used, 33 pairs in one test, 32 in the other. Tests took the form of sets of picture cards, each card having a pair of illustrations. After the test administrator identified the two pictures (a sheep and a ship, for example) the student was asked to point to the one representing the word the tester then pronounced. The tests were given individually.

Two hypotheses were tested: (1) that the higher the grade level, the fewer errors there would be, and (2) that K-1 children in the program would make fewer mistakes than similar children not in the program. The purpose of testing the first hypothesis was to discover how much children's ability to distinguish the sounds of English improves, without special attention as they grow up in an English-speaking environment. The reason for testing the second was, of course, to find out whether the Sounds of English program had significant impact or not.

The performance of all children tested was compared by grade level, and the performance of kindergarteners and first graders in the two schools was compared. Errors were tabulated for each of the 65 pairs of words. Test results on 12 kindergarten and 32 first-grade children at Kalihi-Uka diagnosed as dialect speakers were examined to identify the pairs of sounds they most often confused so that these could be given special emphasis in the Dialect Markers program for children whose first language is not English. All data are displayed in the tables shown in Appendix 33.

In summary, total errors made by children in grades kindergarten, 1, 3, and 5 were 211, 138, 44, and 19 respectively, validating the hypothesis that errors in hearing would decrease at progressively higher grade levels. The comparison between scores of participating and non-participating children revealed highly significant differences in listening; whereas kindergarteners at Kaiulani made 211 errors and first graders 138 errors, their counterparts in the program at Kalihi-Uka made 114 and 59 errors.

There were fifteen minimal pairs for which 10 per cent or more of the non-participants could not hear distinguishes: fin/thin, tin/thin, they/day, sledge/sleds, tug/tugged, mouse/mouth, lass/lash, bat/bath, choke/joke, rake/wake, match/mats, pool/pull, sick/thick, sock/socked, and box/boxed. The pairs which gave dialect speakers significantly more trouble than standard speakers were tug/tugged, bat/bath, treat/tweet, they/day, box/boxed, match/mats, and sledge/sleds. This study produced data for ranking the minimal contrast pairs for difficulty and for eliminating those missed by few K-1 children and none at higher grade levels.

d. Typewriting

To provide information helpful in evaluating the objectives of the typewriting lessons (particularly correct fingering), a study was designed to determine for kindergarten and first-grade children the numbers and kinds of both fingering errors and typing errors and the amount of time needed to type a lesson. Six criterion lessons were selected in which one, two, or three rows of keys were used for small letters and for big letters. Five kindergarteners and five first graders who had completed a particular typing sequence were tested on each criterion lesson.

First graders excelled kindergarteners in correct fingering, accuracy, and speed, averaging only one fingering and one typing error per criterion lesson page. However, the number of typewriting programs completed showed no correlation with a child's age. As children advanced to more difficult exercises, their fingering errors did not increase.

In summary, the criterion tests demonstrated that kindergarten and first grade children can not only learn to type from self-instructional lessons, but that they can learn to do it accurately.

5. Peer teaching outcomes

Some classroom visitors observing peer-teaching dyads detected such faulty practices by tutors as allowing errors to slip by unnoticed or providing answers before the learner had time to respond. These observations prompted studies to find out how much misteaching was actually going on.

In the first study, pairs of children using card stacks or new reading words were monitored unobtrusively in four Kalihi-Uka classrooms. Of the tutors, 16 were kindergarten pupils, 29 were first graders. Observers watched each dyad for ten minutes, recording the tutor's grade and sex, the number of cards attempted, the number of learner errors made, the number of errors detected by the tutor, and the deviations from established tutoring procedures. Appendix 34 displays the data.

It was found that when the tutor was a first grader, almost twice as many cards were used in the dyad as when the tutor was a kindergartener. When first graders were tutoring, learner errors averaged 11 per cent, as against 18 per cent when kindergarteners were tutoring. These findings may be accounted for by the fact that first graders were most likely to be helping more advanced learners than the kindergarteners were. Kindergarten tutors let 42 per cent of the errors pass unnoticed, as against 20 per cent for first graders. The percentages are high; yet if undetected errors are calculated against the total number of cards used, the rates are only 8 per cent and 2 per cent. Forty-four per cent of kindergarten tutors and 52 per cent of first-grade tutors caught all errors. In other words, nearly half of the tutors are doing an outstanding job. For the other half, something needs to be done -- better training, more supervision, or more careful screening.

About half of the time the tutors failed to follow instructions to take the learner back to the nearest red review card when he missed a blue card. The planners did not consider this a serious mispractice. This fact suggests that perhaps going back to the red card is not really necessary.

The second peer-teaching study, conducted with a sample of ten dyads in two classrooms at Kalihi-Uka School, was designed to determine whether tutoring enhanced the tutors' mastery of the material. The results (Appendix 35) show that tutors averaged 11 errors on 30 cards before tutoring, but only four after tutoring. A week later, they averaged only three errors on a retention test. The conclusion seems valid that for most children teaching is an effective way of learning. This study should be replicated next year with a larger number of children and redesigned to overcome the problem of test-retest interaction.

6. Comparative studies

Several comparative studies were made at Kalihi-Uka School in an effort to get some measure of the effectiveness of English Project materials in helping children learn to read. In the first study a sample of second grade students, none of whom had had the skills program, were compared with a sample of first grade children who have been in the program since kindergarten. Thirty-one students in each group were tested on reading selected words and sentences, some from the English Project materials and the rest from tradebooks. The first graders did slightly better on both words and sentences than the second graders.

(See chart in Appendix 36) Of first graders, 19 could read some sentences, as against 16 second graders. Twelve children in grade one and 15 in grade two couldn't read any of the sentences. On word recognition, 18 first graders and 15 second graders were able to read between five and 13 selected words; 13 first graders and 16 second graders read fewer than 5 words.

A second study compared performance of kindergarten students participating in the Skills program last year with the performance of participating kindergarteners at the end of the first and second semesters this year. Records were examined to determine what percentages of children had completed certain components. In all four reading skills (naming the capital letters and the small letters, recognizing likenesses and differences in pairs of words, and beginning to read books), this year's group did better after a half year than last year's group did after a full year. In three of the four skills, this year's group more than doubled the performance of last year's group. Since the kindergarten students this year are of approximately equal ability with last year's, much of the marked difference in performance may be attributed to the improved materials and procedures used this year. For example, this year, for the first time, kindergarten and first-grade students were combined in the same classrooms, so that kindergarteners were frequently tutored in the programs by the older children. Appendix 37 shows a comparison of the two groups.

In a third study the number of books read by first-grade pupils not in the program last year was compared with the number read by participating first graders this year. This year's group read two to three times as many books as last year's: the averages are 13 books for this year's first graders versus five for last year's. And whereas no students last year read 15 or more books, nearly two-fifths of this year's class did. Close to a fifth of them read at least 25 books. Figures are shown in Appendix 38.

7. Correlation of selected variables affecting the program

Data for the approximately 430 students who participated in the Language Skills subprogram this year were keypunched and analyzed using an IBM 360/55 computer with computer programs from the Biomedical Library series (BMD). Three types of data were used: (1) background information on the child (sex, IQ, and socio-economic status), (2) information on the child's ability to carry on certain classroom activities such as gathering materials needed for a particular lesson, and (3) records of the highest level the child achieved during the year among those programs in reading, writing, typewriting, and listening/speaking which were monitored for evaluative purposes.

The student population was divided almost equally between boys and girls. Intelligence was in the normal range; socio-economic status was below the United States average.

Although all possible combinations of these data were used in the correlation study, only those correlations which are of particular interest

are reported here. As expected, the correlations between sex and IQ and between sex and socio-economic status (SES) were essentially zero. The correlation between IQ and SES was .45, a somewhat lower correlation than is usually found between these two variables.

Correlations between sex, IQ and SES and the highest levels achieved in reading, writing, typewriting, and listening/speaking (see Table 1) were low, with the exception of moderate correlations between IQ and reading for first-grade students. These low correlations of sex, IQ and SES with language skills are quite important. Basically they indicate that success in the HCC Language Skills subprogram is not wholly determined by traits that a child cannot control. Thus, children of lower SES have about the same chance to succeed in the program as children from upper SES levels. In fact, students in the lower socio-economic level progressed through slightly more typewriting programs than children from the upper socio-economic level.

TABLE 1

Correlations Among Highest Language Skills Levels Achieved in Four Areas and Sex, IQ, and SES for Kindergarteners and First-Grade Students

	Reading		Writing		Typing		Listening/Speaking	
Grade	K	1	K	1	K	1	K	1
Sex*	.04	.23	.27	.19	.24	.28	.03	.07
IQ	.21	.51	-.11	.08	.24	.22	.35	.23
SES	.18	.27	-.01	-.03	-.16	-.08	.18	.04

*Coded as Boys = 1, Girls = 2; thus the higher the correlation, the better the girls did in comparison with the boys

The low correlations among the four highest levels of achievement in reading, writing, typing, and listening/speaking (see Table 2) were of particular importance in that they indicated that it was not necessary that a child perform well in one skill area to be able to perform well in another: the individual areas were essentially independent.

TABLE 2

Correlations Among Highest Achievement Levels in Four Areas of Language Skills

	Reading	Writing	Typing	Listening/Speaking
Reading	---	.33	.37	.48
Writing		---	.19	.25
Typing			---	.14
List./Spkg.				---

Correlation of teachers' ratings for 180 students at Kalihi-Uka on nine classroom activity skills during the first and fourth quarters of the school year showed moderately high correlations (.70, .69, .68, and .65 respectively) on gathering needed materials, putting materials away when finished, helping other children learn effectively, and locating one's own sticker. The lowest correlation, although moderate (.49), was found in planning at least one activity daily. The mean difference gained between ratings on the first and fourth quarters was found to be highest on locating one's sticker and on going from one activity to another without teacher direction. Least student gain was made on recording one's progress, working independently, and accepting tutoring from other children. This last skill was also the only one in which kindergarten children were rated higher than first graders. In general, these latter three skills seem stable and are not easily affected by instructional methods.

Correlations between classroom skills and the four language skills for the fourth quarter were all positive except for accepting tutoring from other children, which showed a -.02 correlation with reading and a -.28 correlation with typing. This same trait correlated at only .01 with writing and .12 with listening/speaking. This suggests that the ability to accept tutoring from other children is not related to success in language skills, while the other eight traits are positively related to success in language skills. The classroom activity skills correlated most highly with success in reading. These correlations ranged from .38 for putting materials away to .53 for working independently and .57 for helping others learn effectively.

Graphs showing the correlation between highest reading level and IQ levels (See Appendix 39) indicate that students having read over 15 books ranged in IQ from 85 to 145. Likewise, students having read over 35 books by the end of grade one came from all socio-economic levels, including those whose fathers had less than an eighth grade education and were in unskilled occupations (see Appendix 39).

Graphs have also been prepared that show an almost perfect correlation between the test scores for first graders on the Gates-MacGinitie Reading Test and achievement within the reading program after students have begun to read books (See Appendix 40). Before that time the correlation is quite low, since the early decoding programs are based upon pattern words rather than the most frequently used words in basal readers which serve as a basis for the Gates-MacGinitie test. This data partially validates the sequential order of the reading levels from easy to difficult.

In summary, the correlations of student success among the four language skills areas is relatively low with the exception of a moderate correlation between reading and listening/speaking. This indicates that it is not necessary that a child perform well in one area to be able to perform well in another.

The IQ scores correlate moderately with reading and with listening/speaking, and only slightly with writing and typewriting. Sex and socio-economic status correlate only slightly with any language skills. The lack of high correlations between IQ and SES with success in the language skills is quite unusual; it is empirical evidence that the language skills subprogram is capable of functioning effectively even with children from low IQ and socio-economic levels.

Positive correlations among eight of the nine classroom activity skills and success in the four language skills indicate the compatibility between the individualized instructional goals and the language skills goals. The high positive correlations between scores on the Gates-MacGinitie Reading Test and achievement in the reading program beyond the early decoding stage support the sequential order of books in the reading levels from easy to difficult.

IV. THE LITERATURE SUBPROGRAM[6]

A. DEVELOPMENT OF THE CONCEPT OF EVALUATION 1968-69

The behavioral framework is not sufficient for defining objectives and assessing progress in the literature subprogram. The foremost goal of the program is to foster and develop the child's response to literature. But "response" is not necessarily observable, nor can its form be predicted because, initially at least, it is personal, impressionistic, and based on a value system that is implicit but nonetheless real to the child. Hence mechanistic stimulus-response measures for evaluation will not do; more fitting ones must be invented.

But the complexities of defining response to literature in terms amenable to measurement are formidable. For one thing, there are many types of response (physical, emotional, intellectual) which some (Krathwohl, for example) may regard as inherently "higher" or "lower" than others. And there are levels or gradations of response, but these have to do with the sophistication of the form the response takes or with the complexity of the literary work evoking it.

Because of these unresolved difficulties, it was decided to put major emphasis in this year's evaluation on testing the content of the units and, concurrently, to work toward building a consistent evaluation design through further study of theory, watching the children for clues to their responses, and trying out promising ideas that emerged from study, observation, or discussion. The design can then be implemented the following year, when some of the units will be in the final testing stage.

B. EVALUATION OF THE UNITS

The procedure for evaluating the newly-developed units varied within a general format having the following sequence:

1. Writing the units

The design for the literature subprogram specifies a range of elements (groupings of the kinds of experiences literature deals with) to be covered by the curriculum. These elements are further divided into components, each of which is concerned with some aspect of the element. For example, the element Make Believe consists of the components Little People, Wishful Thinking, Magic and Wonder, and Fabulous Creatures.

Usually a project planner selects or is assigned a single component for which he takes the primary responsibility. The planner outlines

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[6]This portion of the report was originally written by Anne Nicol and Norma Ostrander.

units which are grouped into "contexts" within the component, and by interacting continuously with other staff members who serve as consultants and critics, creates a unit which is then rough-tested in the classroom.

2. Classroom testing and revisions

There are six classrooms available for the rough-testing, three at the University Laboratory School and three at Kalihi-Uka School. Some lessons are evaluated in several classrooms, others in only one. The planner responsible for the unit observes the rough-testing. In addition one or two other planners are usually present to keep notes and provide additional viewpoints for the evaluation. The observations are recorded in narrative form and copies are given to the unit planner and to the planner in charge of testing. Classroom teachers often make their own records of the evaluation and share their insights with the planner.

There are no formal procedures for revision: it usually takes the form of a continuing interchange between the unit planner and others (including the classroom teacher) who have observed the unit in use. In an effort to systematize classroom observations and provide more orderly feedback on the rough-testing for future reference, several forms were drafted and used experimentally. But these proved to be unwieldy for recording on-the-spot observations, and since the most immediate needs of the unit planner were met adequately by narrative reports, the forms seemed unnecessary, at least at the rough-testing stage.

There is a second source of feedback. Each unit includes a number of suggested activities, many of which yield student products of some type. The planners feel that they gain considerable insight into the children's grasp of the content through seeing the original writings, drawings, or dramas inspired by the literary selections.

3. Final testing of the component

When the units have been revised to the satisfaction of the chief planner, the entire component is taught as a unit and evaluated once more. Again, the evaluation process is quite informal, but by this time certain measures have been built into the units to provide both teacher and planners with clues to the students' "progress."

C. DESCRIPTION OF THE TESTING CONTEXT

1. Students

The classrooms used for testing at the University Laboratory School are ungraded, containing children who would normally be in grades two, three, and four. They span the entire ability range of the school. One class each of second, third, and fourth graders at Kalihi-Uka School also took part. The third and fourth graders are high-ability students but each class has a number of slow and average ones as well.

Additional second and third grade classes were used occasionally at both schools to test some materials.

2. Teachers

Cooperation from all the teachers was excellent. They talked freely with planners and observers and were eager to learn all they could to help them teach the materials effectively. Most of them seemed to appreciate demonstrations by the staff. They liked the planner's willingness to put himself in the teacher's place. The teachers were able to tell the planners about such matters as student behavior, classroom control, and characteristics of elementary children that teachers know best.

The problems encountered this year are attributable almost entirely to the fact that the curriculum requires a teaching style that is new to even the most experienced teachers. Because the program has such enthusiastic support from teachers who have used the materials, problems in teaching should diminish steadily as teachers become more and more familiar with the objectives.

D. SOME RESULTS OF THE ROUGH-TESTING

Six complete components were tested this year. However, since most of the testing was of single segments, it is inappropriate to speak of results since the units are still undergoing review and revision. The kinds of factors that call for changes after classroom testing generally fall into three categories:

1. Faulty targeting

A particular unit turns out to be too easy or too difficult for the ability group to which it was directed. In this case, the unit is simply moved into another context destined for other types of children, or a note to the teacher is included so that she may use the unit more effectively.

2. Lack of appeal

A literary selection or activity simply does not evoke interest. Sometimes the unsuccessful part is dropped. More often, attempts are made to see why a theoretically sound approach did not succeed in practice. Often the teacher provides the necessary information for revision.

3. Inadequate teacher orientation

The teachers' notes do not provide adequate or appropriate information for teaching the unit according to the intent of the planner. A failure of this type is usually apparent to the observing planners who can be informed, again by the teacher, as to weaknesses in the unit plans.

The components Fabulous Creatures, Narrow Escapes, Magic and Wonder, Insights, Little People, and Wishful Thinking were tested during the school year and are now considered to be in final form. A record has been kept of the observers' comments and some of the major revisions made in the components as they were developed. Student comments were also noted and a file of students' stories and drawings was created. Such materials will be used by the planners both as they develop other components and train teachers for using them. One of the stories inspired by Fabulous Creatures attached as Appendix 41 is a good example of what the planners consider evidence that a lesson has evoked a desirable response.

It is impossible to categorize meaningfully the evaluation findings from this year's rough-testing. Especially at this stage, evaluation-revision is a constant cycle, so that criticisms are valid only at the moment they are made. The teachers who used the materials are enthusiastic, and the students appear to have enjoyed and appreciated the new diet of literature. Later in this report, a special "evaluation unit" is described which provides some further insight into the success of the literature program.

E. EVALUATION OF STUDENT RESPONSES

Throughout the year, meetings were held to discuss approaches to evaluating the response of the students to the program. For the most part, the discussions got caught up in the difficulties and dangers of attempting to measure aesthetic response by existing methods and often produced nothing substantive. Some of the ideas brought forth are noted, however, so that they may be revisited later. Others, which seemed to have some practical application, were carried further, and finally, an evaluation device which was actually used and analyzed is described.

While it is undesirable to evaluate the student by rating his responses, it does seem feasible to classify responses which were forthcoming to a particular work. Alan Purves' "Categories of Response" was suggested as a possible starting point.[7] His categories are engagement, perception, interpretation, and evaluation. Another descriptive device which might be used in the same manner is Krathwohl's taxonomy.[8] There are some strong objections to using this scheme in its hierarchical form, at least insofar as it implies rating the response of the child. Also, it was felt that a very important element which must be accounted for in describing response to literature, the "aesthetic process," is not treated adequately in Krathwohl's work. The problem in using a system developed from these categories is essentially one of defining typical behaviors for each of the categories so that they may be readily observed and recorded. Even assuming that a workable system could be developed, converting it from a description of events into an evaluative instrument poses knotty problems.

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[7] Alan C. Purves and Victoria Ripple, Elements of Writing about a Literary Work: A Study of Response to Literature. National Council of Teachers of English, Research Report no. 9, 1968.

[8] David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia, Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook II: Affective Domain (New York: David McKay Company, Inc., 1964).

Another aspect of the literature program which must not be overlooked is its humanistic goal: essentially, that the student of literature gain increasing understanding of man's place in the world. It is not intended that this kind of understanding be evaluated directly, but that it be held in awareness as measures are developed for the more specific and more easily defined objectives of the literature units.

The "brainstorming" sessions produced a number of ideas which were acted upon to various degrees. In line with the idea that an evaluation must be consistent with the notion of initial response and that it should carry on the work of a unit rather than follow it, some evaluation defices were built into the units themselves. These took the form of puzzles, games, and dramas very much like the activities suggested in each unit. These built-in evaluation devices, however, were designed to be used by every group, and each had a well-defined purpose so that the observing planners could gather information immediately on certain aspects of the unit.

Another notion which developed out of the evaluation discussions was to make constructive use of the "gems" which emerge occasionally and unexpectedly during the presentation of the units. "Gems" are responses that show unusual and unanticipated insight into some aspect of the story. In addition to recording such responses, it would seem useful to share them with teachers through the instructional manual as examples of what could happen, but not as guides, directives, or standards.

From the planners' notes to the teachers, the beginning of a list of question areas (which attempt to assess the children's understanding of significant relationships in the stories) was compiled along with reasons for asking such questions. As more components are completed the list may be expanded and improved upon, so that eventually it can serve as a source of items and ideas for evaluations of the sort that were piloted at the close of this year.

An experimental test was developed and tried out in one of the classes that had used a number of the literature contexts during the year. The test consisted of (1) the presentation of a new and quite sophisticated story, (2) an evaluation to be written by each student and (3) an interview using several sorting games and a series of word associations. It was intended to be a learning experience for each child as well as an evaluation of his progress in the program, and it was designed to provide feedback to both teacher and planner about individuals as well as about the class as a whole.

The structure of the test provided a profile for each student with scores in (1) understanding of the structure of the story, (2) understanding the work as the outcome of the author's choices or intents, (3) understanding of or responding to the characters, and (4) responding to certain special qualities of the work. A variation in types of test items, from written to oral, highly-structured to open-ended, was provided both for experimental purposes and to evaluate fairly children whose responses are revealed in varying modes.

The results were quite encouraging. The test proved to be valid for discriminating between the higher and lower-performing students in the class. Furthermore, it provided the teacher with some new insights into certain students who had been too shy to participate actively in classroom discussions. Some of the items did not have a single correct answer, yet procedures were developed so that these items could be included in the profiles for the students. Response to character was assessed using several semantic-differential types of items, even though there had been some question about the children's ability to use this format. The responses to these suggest that the children were quite capable of responding to the scales provided.

In addition to information about the students, ideas for revising the tests were collected in the process of administering and scoring the responses. The children themselves had some helpful comments. On the whole the test seemed to be valid enough so that some tentative conclusions could be drawn. The children had most difficulty in discerning the author's intent, with reference to his reasons for building a character into the story, and to his purpose in telling the story at all. They also had some trouble grasping the structure of the entire story. Still, there were some surprisingly good responses to these questions, some of which were difficult even for the planners. The students tended to be more competent in describing and responding to the characters in the story and in identifying their "special qualities."

Although the test was based on a single story, the questions required that the child draw on literary experiences gained throughout the year. That is, most of the children simply would not have known how to approach many of the questions at the beginning of the year because the concepts had never before been presented to them. This hypothesis could be tested by using a similar instrument with new students at the beginning of the year.

The two forms which evaluation of the literature program took during the year 1968-69 have been fruitful. The first, evaluation of the units themselves, is really an indispensable part of the writing process. The high degree of cooperation among project and teaching staff made this process a smooth-flowing and productive one. The second form, evaluation of student response, barely got off the ground. The progress made, however, seems to be in the right direction as far as the theory of the project is concerned. It also was strongly supported by Alan Purves who served as an outside evaluation consultant. The recurring difficulties in working with responses have been noted, recorded, and dealt with in such a way that they will at least provide a continuing and uplifting objective for evaluation activities to follow.

V. THE LANGUAGE SYSTEMS SUBPROGRAM[9]

A. DEVELOPMENT OF THE CONCEPT OF EVALUATION, 1968-1969

The chief goals of the Language Systems subprogram are of three kinds: humanistic, disciplinary, and utilitarian. Because some of these goals tend to resist behavioristic reduction, there must be a continuing search for new definitions and strategies for evaluating the program.

Humanistic goals concern learning something about one's self from gradually accumulating (and occasionally heuristic) insights into the nature and use of language. (Language is defined as that system -- usually manifested in speech and writing -- which makes possible to man the encoding, manipulating, constructing, and sharing of his public and private experience.) Progress toward such a goal is difficult to test; it would be reflected ultimately in an attitude toward language and the study of it which could be characterized as flexible, tolerant, questioning, respectful, humble, and open-minded.

One of the two major disciplinary (that is, content) goals for students is to learn about linguistic concepts and the underlying principles that appear to govern language through study of some of their very specific manifestations in certain topics in language, communication, and culture selected for the program. Again, progress would be difficult to measure since students' insights are expected to be largely cumulative. In the program students are given numerous opportunities to grasp the notions of language as system, as creative, as the substratum of social cohesiveness. Thus, if the insight is not achieved one time, it may well be another time. At the elementary level of the program it is expected that students will learn about the internal structure of language, about its uses, and about people's attitudes toward it, but all in a very informal and implicit way. It is in the intermediate and high school years that students will cover some of these same concepts and principles formally and explicitly. At that time it is expected that their preparation in the elementary program will stand them in good stead. It is unlikely, however, that this potential can be measured while the students are yet in the elementary program.

But the major disciplinary goal is the development of skills commonly used in the processes of scientific inquiry. Since these skills are more easily identified, mastery of them is more readily assessed. Observing, classifying, measuring, inferring, using notational systems, interpreting data, reporting, experimenting, hypothesizing, and predicting are basic processes in discovering and developing linguistic knowledge. Many of the activities which constitute the units require the use of one or more of these process skills. Hence the accomplishment of a given activity is itself a measure of the extent to which the skill has been mastered. In the elementary units this mastery of skills is being indicated on a self-tracking personal progress report.

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[9] This section of the report was written by Don Sanborn and Ruth Crymes.

Lesson materials specify minimal levels of performance both in knowledge and in skills for each group of activities. Additional activities and worksheets provided for supplementary or optional use indicate performance beyond the basic level.

Beginning in the early stages of the project with attempts to specify behavioral objectives and to devise conventional achievement tests for them, the planners have come to rely more and more on pre and post measures, observation of the students at work on the activities and games, examination of students' products, and teachers' evaluations for assessing mastery of the major concepts and skills in a particular unit. Such judgments are admittedly subjective; nevertheless they yield some insights into the degree of self-direction the students are able to achieve in the unit. That is, given the data and suggested methods for handling the data, an attempt is made to answer the question: Are the students taking hold and proceeding toward some conclusions about language -- or about communication in general -- and are they enjoying what they are doing?

The utilitarian goal of improving the language skills of students appears less difficult to assess. Yet there is scarcely any experimental evidence showing a correlation between knowledge about language and the ability to use language. Still, it seems plausible that, if students enjoy the study of language, their attitude toward language in general and toward the study of English in particular might become more positive, with some salutary (though indirect and unprovable) influence on their skills in the language.

B. OVERVIEW OF LANGUAGE SYSTEMS UNITS

Language Systems is a subprogram in the study of communication and language, designed to begin in grade four. Units are at various stages in the development-testing-revision cycle. They are listed below; the ones already tested are described briefly.

1. Elementary units already tested in University Laboratory School classrooms

a. The Advertising Unit deals primarily with linguistic devices commonly used in magazine, radio, and television ads: puns, alliteration, substitution of animate qualifiers for inanimate, and the like. The students' data are drawn primarily from a booklet of magazine ads, tapes of radio commercials, and films of television commercials. Students classify ads, compare language devices, and write their own ads.

b. The Animal Communication Unit explores non-verbal communication, systems of animal messages, and the training of subjects (such as porpoises) to understand human communication. Data are supplied through tradebooks, tapes, and film loops; students prepare graphs, traveling games, and other kinds of reports showing features of animal messages and comparing them with human ones.

c. The International Language Unit introduces the students to Esperanto as an example of an artificial language. Students learn its sound and writing system, some of its vocabulary, some of its devices for making words, its syntax, and then proceed to compare it with English and to invent their own language. Data are provided primarily in the text and reference library, and students conduct such investigations as writing a simple grammar for Esperanto and for their invented languages.

d. In the Sign Language Unit students look at hula gestures, deaf sign language, and Indian sign language with a view to understanding how an unspoken and unwritten form of communication might work. Students teach each other to send messages in some of these forms and contrast them with human speech and writing.

e. The Symbol Systems Unit introduces students to pictorial languages such as international travel and highway symbols, map symbolism, and a system called Semantography which resembles Indian picture writing. The unit concludes with a brief look at syllabic and alphabetic writing systems. Students variously invent and test international symbols; investigate specialized visual, aural, and tactile symbol systems; and compile dictionaries based on their research.

2. Elementary units in component and simulation testing phases

   a. Dialects

   b. Social Formulas

   c. Sounds

3. Elementary units in development

   a. Gestures

   b. Names

   c. Propaganda

   d. Secret Codes

   e. Writing Systems

4. Elementary units projected

   a. Backgrounds of English

   b. Popular Songs

5. Intermediate School Units

Three units for junior high school have been completed. Further development awaits completion of the elementary program.

a. The Historical Development of Vocabulary Unit focuses on the history of English as seen through its borrowings and on its cultural contacts as reflected in such things as place names. Students attempt to arrive at conclusions about conditions necessary for the replacement of one language by another, the relative frequency and types of lexical items coming from various cultural contacts, and the effects of dictionaries and conscious attempts to enrich the language on English.

b. The Phonology Unit deals with the nature and history of English consonants, vowels, and the interrelations of sound and spelling on the modern English spelling system. Students conduct experiments to distinguish between the perceptual features of consonants and vowels in English, investigate the rules that govern initial consonant clusters, reconstruct the great vowel shift, and consider the problems of spelling reform.

c. The Words Unit treats parts of speech in English, how one part of speech is changed to another, the basic syntactic features of nouns, and verb tense. Students manipulate examples of parts of speech to arrive at generalizations about what constitutes a word class, investigate the processes of affixation and co-occurrence, and attempt to formalize the English tense system in terms of mathematical logic.

C. EVALUATION OF THE UNITS

Language Systems units currently in development are undergoing a far more rigorous cycle of testing even before they reach the classroom than heretofore was customary. Component and simulation testing now precede testing in schools. Component testing is the trial of selected lessons (or simply a handful of materials) with a small group of students or even an individual to determine whether youngsters of the target age-group can in fact perform the required tasks. Simulation testing is a tryout of the completed unit in first-draft form with a small group of teachers and planners who act both as students and as critics. Both cycles of testing have been found extremely helpful in producing a more polished form of the unit for classroom tryouts in the University Laboratory School.

Classroom trials have usually taken up fifty-minute periods for fifteen consecutive days. The first and third days each week were generally used for whole class meetings for presentation of the topic, problems to be investigated, and exemplary research studies. The remaining days were generally devoted to work individually, in pairs, or in small groups. The room was often divided into informal working and resource areas where students could browse in library materials, tapes, games, and film loops. Activities, worksheets, and independent research have been largely self-directing and self-checking.

Evaluation of the materials tested to date has taken the form of informal notes or reports submitted by outside observers, teachers, the planner and by students. The forms used for these are on file. It would be difficult to assess the effect of the customary practice of teacher-planner conferences on the success of the units tested on campus. The planners are now generally convinced that the information most useful in revising the units is that provided by the teacher, especially if the comments deal specifically and in detail with specific exercises and activities in relation to her own teaching strategy and her particular students. Such information clearly defines where the unit is strong and where it is weak for a specific teacher with a particular level of students. Consequently, adjustments are being made to the teacher's manual to insure that this information reaches the planner regularly.

The kinds of changes made in the units as a consequence of the limited testing typically include the following: activities have been re-ordered to place the more familiar and accessible material at the beginning; formats have been modified to make them more attractive; entire activities have been abandoned and others added; and the suggestions to the teacher have been enlarged on the basis of specific recommendations by the testing teacher. More specific changes (actual and proposed) include attempts to make activities still more self-directing and self-checking than heretofore; to develop some relatively simple classification exercises to provide practice for students who need it; to delineate cognitive, linguistic, and skill goals more clearly for the teachers; and to rely more and more on manipulative activities, including card games and puzzles, for instruction as well as for review.

Since testing thus far has involved a different group of students for each unit, achievement testing has not been possible. The micro-pilot program beginning in the fall of 1969 will provide, for the first time, groups of students who have taken four consecutive elementary Language Systems units. At that time it is expected that planners will be able to observe the cumulative effect of the units as well as the degree of success when taught to classes of high, average, and low abilities. It is also expected that the micro-pilot testing program will provide the project with a core of persons somewhat experienced in the use of the Language Systems materials who can be called upon to assist with teacher preparation as well as revisions of the materials for wider testing.

The planners generally agree that the following are the most important conclusions to date:

1. Children <u>are</u> interested in the language systems topics.

2. They <u>do</u> grasp quite complex language concepts when they are allowed to work them through by themselves through trial and error.

3. Students provided with the resources and open-ended situations built into the Language Systems unit, and encouraged to draft, test, and revise their own generalizations can learn about language systems.

4. The teacher is a major factor in the success of the unit: her interest, skill, and cooperation are vital.

VI. EVALUATION OF THE 1968-69 EVALUATION

The Hawaii English Project has developed a wide spectrum of programs demanding an evaluation effort flexible enough to run the gamut from units in language skills with highly specific behavioral objectives to those in literature which tend to defy the behavioristic viewpoint in favor of a humanistic response to literature. In each case, evaluation activities have been designed to fit the philosophy of the programs, not to reshape programs in accord with any philosophy of evaluation.

The primary purpose of this year's evaluation was to provide curriculum planners and administrators with detailed information useful in revising objectives, curriculum materials, and instructional procedures. In order to conserve the resources of this evaluation, a decision was made to focus major attention upon the Language Skills subprogram, since it was the one furthest along in field testing and the first to be selected for large-scale implementation in Hawaii. The comments of the planners and the revisions supported by evaluation evidence validate the success of the year's effort to provide planners with information essential to revising their materials. Several factors helped to account for this success. First, the planners worked with the evaluation specialist in devising specific questions to be answered with supporting evidence to guide them in revising their programs. A second factor was the direct involvement of the planners themselves in observing and working with children, and in talking with teachers and other personnel. Third, the evaluation specialist attended the weekly staff meeting of the planners, listened to their plans and problems, and gave them direct feedback and interpretation of evaluation information as soon as it was available.

This past year's evaluation is considered by the evaluator to have been less than satisfactory in assembling information useful to the project manager and the administrators of the Hawaii Curriculum Center. There are several reasons. First, the information needs of the curriculum planners and section chiefs took priority, leaving less time for working directly with the project manager and the director of the Center in determining what decisions they would need to make during the year and what sorts of evaluation evidence they would need. Second, some of their information needs had more to do with project management than with curriculum revision; to meet those needs would have required a shift in the direction of the evaluation. Ways to improve this aspect of the evaluation task will be explored in the coming year.

Feedback on specific evaluation instruments used during the year has been useful in directing needed revisions in their construction and administration procedures. For example, most of the instruments administered once during the year (such as the student media preference inventory or the teachers' rating scale for materials) were of limited usefulness since they showed ratings at only one point in time. Next year similar instruments will be administered to random samples of students and teachers throughout the year in order to monitor their changing attitudes as certain materials come into wider use while others are completed by most students.

A few evaluation procedures tried this year (case studies, for example), while appearing to be conceptually appropriate, fell short of their potential because of failure to insure prompt and frequent contacts between the persons gathering the data and the planners, teachers, and administrators who might have gained from the insights suggested by the data. Periodic meetings of this nature will be held next year, and a more systematic method of providing feedback to planners, administrators, and teachers will be initiated.

Exploratory efforts to evaluate components of the English curriculum less amenable to behavioral definition have provoked much interest on the part of both evaluators and curriculum planners. Perhaps the greatest contribution that the evaluation attempts in this area have made is the indirect benefit, shared in by all, of a clearer understanding of how students are responding to literature.

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